

Medical Control Seminar

Trauma systems and their development

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Definitions

- **Verified**
 - A process by which an independent evaluator analyzes how well an institution meets stated goals
 - i.e I verify that the goals that are stated are met
- **Designation**
 - The choosing and naming of something to an official position.

Trauma System Review

- **Statewide and organized response to managing and improving the care of the severely injured patient.**
 - We are already taking good care of patients
 - Patients are going to the right places currently
 - What about the “kinda” injured patients

Why do we need trauma systems

- **JOT Article comparing the states with trauma systems and the ones without**
 - Overall injuries were similar
 - Overall those with even the most rudimentary systems the mortality rate of the severely injured was reduced by 12%
 - No difference in the non severely injured patient

Why do we need trauma systems

- **We should concentrate the most severely injured**
 - Ones where time matters the most
 - Ones who need the most urgent interventions
 - The ones with the most physiologic derangements
 - These are not the ones with the worse accident scenes
 - The damage at the cellular level due to decreased perfusion remains the most important issue

What are the concerns?

- Hospitals Nationwide (not Michigan)
 - Diagnostics are what allow hospitals to keep the door open
 - Big hospitals will take all the patients
 - Little hospitals will not have any patients
- Michigan has an inclusive system
 - All hospitals are encouraged to participate at the level appropriate for them

Michigan Case Study

- Anonymous hospital for purposes of talk the numbers will be approximations
- Community of a 5 to 10 thousand
- Hospital 40 to 80 beds
- Er visits 10 thousand

Michigan Case Study

- ER visits of 20 thousand
 - 6 thousand of these fall within the ICD 9 codes that are considered “trauma” related
 - 25 of these are transferred to the trauma center.
 - .41% of patients transferred
 - What is there to worry about?

Hospital Challenge

- If you are here from a hospital worried about the trauma systems
 - Look at your ER visits
 - Look at your trauma transfers
 - If the number is low.....
 - Is it worth it to worry?
 - If the number is high (and injuries are severe) you should probably be a trauma center.

We need a trauma system

- Studies show hospitals verified as trauma centers have a 25% reduction in trauma related mortalities
- As mentioned the studies show states with trauma systems demonstrate a reduction statewide in mortalities
- I promise I will not talk about helmet and seatbelt laws and how much that helps

Trauma System is based on Preparedness Regions



Population

- Region 1
 - 1.1 million
- Region 2S
 - 2.2 million
- Region 2N
 - 2.2 million
- Region 3
 - 1.1 million

Region's Population

- Region 5
 - 948 thousand
- Region 6
 - 1.5 million
- Region 7
 - 461 thousand
- Region 8
 - 311 thousand

Michigan – Two Divergent Needs

- Metropolitan sections
 - Areas with dense patient populations
 - Well covered with medical centers
- Rural areas
 - Upper peninsula
 - Represents one third of the land mass of Michigan
 - Population density lowest in Michigan
 - Represents less than 2% of our population

Michigan

- Advantages
 - Long history of verified trauma centers
 - Advanced education centers
 - Well founded and time tested patient flow patterns

Michigan

- Disadvantages
 - Economy
 - Health insurance coverage
 - Very large land mass
 - Weather that makes transportation difficult
 - Population variances
 - Urban
 - Rural

Are We Far Behind

- Why reinvent the wheel?
- Case studies and discussion of other states who have gone/going through the process
 - Texas
 - Indiana
 - Ohio
 - Maryland

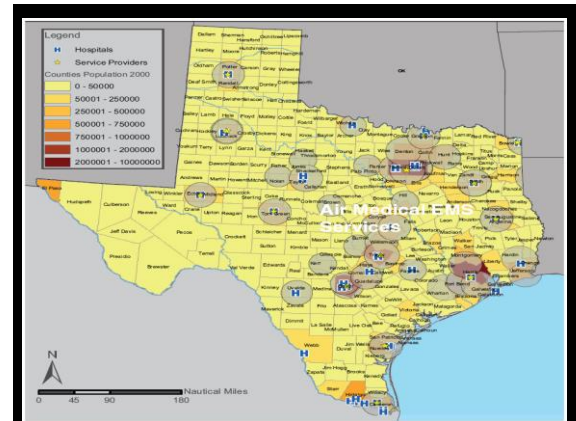
Texas

- Why Texas
 - State very similar to Michigan
 - Large land mass
 - Concentrations of populations
 - Large population areas
 - Very rural sections with limited population
 - Theoretically they are ahead of us in trauma program development

Texas

- So what is so special about Texas
 - “Everything is bigger in Texas”
 - **There's an old saying in Tennessee - I know it's in Texas, probably in Tennessee...that says, fool me once, shame on...shame on you. Fool me...you can't get fooled again.**
 - George W. Bush

“Texas: It's Like a Whole Other Country”



Urban Centers



Downtown Houston

- 4 Level 1 trauma centers
- 3 Medical Schools
- 8 Hospitals
- Over 500 residencies

Rural



Texas Recent Challenges

- Exclusive system design
- No statewide trauma registry data or EMS data
- No trauma system performance improvement
- Funding nonexistent
- Poor communication about patient flow and care between regions
- Inadequate system research
- Rising proportion of uninsured and undocumented persons
- EMS not an essential service
- Some areas not covered by EMS

Key Recommendations from the American College of Surgeons

- “get a plan”
- get a registry (or two)
- get data
- get people
- get system PI
- get (more) money

Key Recommendations - Plan

- Update the *Strategic Plan for the Texas EMS/Trauma System* and formally revisit it on a scheduled basis, e.g. every 3 years.
 - This is a recommendation that seems to work all over the country
 - Popularized in several states
 - Maryland “The George Washington of Trauma”
 - Washington

Michigan Plan

- Trauma system is formulated as part of legislation
 - The plan is an interpretation of the legislation
- Changing of the plan requires the opening of legislation
 - Each time this provides an opportunity
 - Partisan politics
 - Gamesmanship
 - Lobbyist

Michigan vs. Texas

- Texas adaptable plan
- Michigan legislative plan

Texas 1 Michigan 0

Texas

- Get a registry
 - All states with successful programs have a well functioning source of collecting data
 - Source of information for protocols
 - Serves as a reference for funding
 - Helps to determine areas of need

Michigan

- We have a registry
 - Is designed to incorporate prehospital and hospital data
 - Trauma centers verified by the ACS are already collecting data
 - More importantly we have a quality initiative

Michigan Trauma Quality Initiative Program

- A registry tracking quality
- An analysis tool that allows each center to track specific issues
- One can envision that this someday will be expanded to include the whole state

Update Texas

- Have a new state of art registry

Texas vs. Michigan

- Texas a new registry
- Michigan with prehospital
- Michigan the only state in the country with a quality cooperative between trauma centers

Texas 1 Michigan 1

Texas recommendations - Personnel

- Re-establish the position and hire a full-time trauma system program manager..
- Establish a state trauma medical director position or consultant and clearly define this individual's role.
- Get liaisons to help coordinate the "regions"

Michigan Personnel

- Michigan has a state program manager
 - Eileen Worden
 - She has almost single handily moved the system forward at the state level
- Michigan has hired a coordinator for each region
 - Each has helped facilitate a plan for each region to meet the requirements of the legislation

Texas

- Just hired 30 new trauma staff members including the recommended titles

Texas vs. Michigan

- Texas improving rapidly
- Michigan has hired all the regions and state coordinators

Texas 1 Michigan 1.5

Texas Performance Improvement Recommendations

- Statewide trauma system performance improvement plan and implement it.
- Establish minimum state performance improvement audit filters.
- Collate information to identify instances of failed or delayed interfacility transfer for all trauma

Michigan PI plan

- The performance improvement plan more focused on the individual regions
 - Difficulties
 - Allows institutional rivalries
 - Makes cross region transfers difficult to review

Michigan vs. Texas

- Basically a “wash” no state really in front

Texas 1 Michigan 1.5

Texas Funding

- Develop a vision and strategy to identify and capitalize on all available revenue resources to support, enhance, and sustain the trauma system.
- Currently have a bad behavior tax

Texas Funding

- Bad Behavior Tax
 - Initially less than one million dollars a year
 - Expanded in last 2 years to include speeding tickets
 - Now there is plenty of money
 - 60% goes to trauma
 - 39.1 million to top ten trauma centers
 - 40% goes to general fund

Texas Funding

HOSPITAL	BCC	CHARGES	COLLECTIONS	COSTS	REIMBURSEMENT
Bee Youth Houston	0.398	67,074,753	1,391,184	26,142,860	7,095,835
Hermann Houston	0.303	80,715,157	2,044,586	23,564,507	6,846,631
Parkland Dallas	0.358	58,848,297	2,797,130	19,775,914	5,747,824
University San Antonio	0.410	35,240,432	3,899,546	13,261,813	3,853,199
JPS Fort Worth	0.309	38,043,255	1,041,843	11,433,436	3,321,967
Baylor Dallas	0.351	29,915,100	216,495	10,424,210	3,028,738
UTMC El Paso	0.341	29,660,667	883,365	9,813,868	2,851,109
UTMC Brackenridge	0.308	45,127,207	116,492	9,383,847	2,726,230
BAMC San Antonio	0.500	12,982,792	377,726	6,262,533	1,819,569
Methodist Dallas	0.318	19,377,400	291,461	6,809,328	1,763,434

Michigan Funding

- Currently part of the crime victims fund
 - Was better than Texas
 - Now not so much

Michigan vs. Texas

- Texas has figured it out. Sin sells. Or everyone in Texas thinks that speeds limits do not apply to them

Texas 2 Michigan 1.5

Synopsis

- Our trauma system has many problems
 - But at least we were not Texas.
 - Amazing what money can do. Texas in 6 months has passed us
 - Unfortunately this review by the American College of Surgeons did not help with the issue of rural trauma the only state that has tried is.....

Maryland

Maryland

- History
 - Started by R. W. Cowley MD, FACS
 - Housed in Baltimore with the U of M the primary resource center
 - Johns Hopkins is just a Level I
 - It is a branch of the government much as one would consider the department of transportation

Maryland

- What has kept the trauma system going and made it successful
 - All citizens have exactly the same access to care
 - When issues arise the state addresses them with a new plan each year
 - Each year the organization gives a report
 - The state attaches a 5 dollar fee to each license renewal raising 12.5 million a year

Maryland

- Access to care
 - The first aeromedical service in the country
 - Run by the state police with helicopters positioned around the state based on distance and the time needed to get to the trauma center.
 - EMS is volunteer and all are trained at the same center with the same protocols throughout the state

Maryland

- Not really a rural state
- The police and their stations are positioned to help all the people of the state of Maryland
- The medical care is directed by Base stations positioned throughout the state

Michigan

- Why did I bring up the other states
 - Ohio
 - Basically we win again
 - Indiana
 - Basically we win again

Key Components of a Trauma System

- “get a plan”
- get a registry
- get data
- get people
- get system PI
- Get money

Michigan

- Get a Plan
 - As mentioned we have a plan
 - Each region has a plan
 - All of the regions have identified in their plan areas to work on called “smart initiatives”.
 - the difficulty we have is the system is in legislation
 - To make some of our changes we will have to go forward as is and make changes in the future.

Michigan

- What does this plan mean for you
 - Level I and II's
 - Not much change for you in your everyday lives
 - You will have to commit resources and time to assist the level III and IV's in the state
 - Level III and IV's
 - Patience not patient's
 - If you want to move quickly get an ACS verification
 - Please realize that some of the things you hear are true but will be changed in the future
 - The Real issue is to do the best for the patient

Michigan

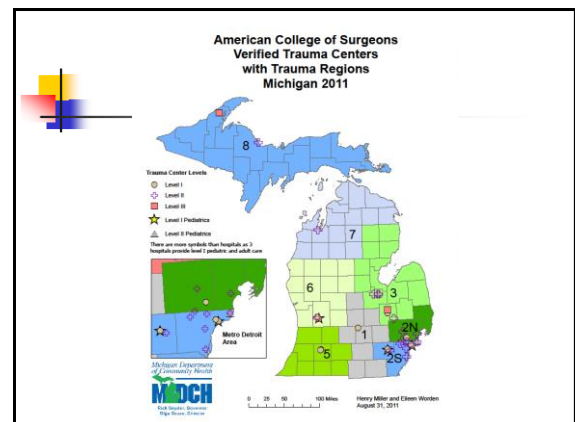
- Get a registry
 - ImageTrend
 - Our registry with the advantage of both prehospital and hospital data
 - The state is actively engaging and teaching personnel in training in data entry and management
 - The registry is being made compatible with all the other registries at the trauma center.

Michigan

- Get Data
 - Data is king
 - Data drives the whole program
 - It improves care
 - It convinces lawmakers
 - It makes people believers
 - Truck tailgates
 - Seat belts
 - Cigarettes
 - Apple Computers
 - “a person is smart, people are dumb”

Michigan

- Get people
 - We have a great start
 - We have listed them before
 - We are recruiting more and we have all the trauma centers many of whom have been verified for almost 40 years.



Michigan

- Get a system performance improvement
 - We are recruiting someone to help with the verification and designation of hospitals
 - Data is the key to get getting better
 - We have relegated this to the regions
 - This is in my opinion a mistake
 - We can fix this with the other issues in the future

Michigan

- Get money
 - We have a start we are ahead of many states
 - Bill to fund permanently
 - We have to raise more money than we are currently considering
 - We have to make it sustainable
 - Video games sales
 - Make it an app
 - We have to hide it
 - Cannot reasonably tax cigarettes any more
 - Maybe on beer and wine made in Michigan with a higher amount for that from out of state

Conclusion

- We are not so bad
- Designation of Trauma Centers is on horizon
 - This year for ACS verified centers
- Urban areas
 - Plenty of coverage for trauma patients
- Rural areas
 - We need more money
 - We all need to pitch in

Conclusion

- Do your part
 - Contribute data
 - Keep up to date with your trauma education
 - Talk some sense into your administration
 - Keep coming to the St Joes Trauma Conference